

## Claims

1. Method for the species-specific and quantitative detection of CNS tissue in meat and meat products,  
Characterised by the steps
  - a) Preparation of the sample material and RNA extraction
  - b) Reverse Transcription of the RNA in cDNA
  - c) Analysis of the cDNA of the GFAP gene in real-time PCR
2. Method according to claim 1 characterised by the fact that it is specific to bovine, ovine, caprine and porcine animals
3. Method according to claim 1 characterised by the fact that the preparation of the sample material occurs by homogenisation, preferably by a combination of vertical rotation movements and horizontal up-and-down movements
4. Method according to the previous claims characterised by the fact that the RNA extraction occurs by means of lysis and extraction on phenol basis so that RNA is also extracted from matrices with a particularly high concentration of fatty acids
5. Method according to the previous claims characterised by the fact that the real-time PCR is carried out for bovine, ovine and caprine animals with
 

Primer RTGcowM56F2a	5'-ACC TGC GAC CTG GAG TCC T-3'
Primer RTGcowM56R2a	5'-CTC GCG CAT CTG CCG-3'
TaqMan <sub>mgb</sub> sensor OptiR	6-FAM-ACT CGT TCG TGC CGC GC-MGB
6. Method according to claim 5 characterised by the fact that Primer RTGcowM56F2a or Primer RTGcowM56R2a is used with the TaqMan<sub>mgb</sub> sensor OptiR.
7. Method according to the previous claims characterised by the fact that real-time PCR is carried out for porcine animals with the following primers:

Primer RTGpigM56F2	5'-GAC CTG CGA CGT GGA GTC CC-3'
Primer RTGpigM56R2	5'-TGG CGC TCC TCC TGC TCC -3'
TaqMan <sub>mgb</sub> sensor OptiR	6-FAM-ACT CGT TCG TGC CGC GC-MGB

8. Method according to claim 7 characterised by the fact that Primer RTG RTGpigM56F2 or Primer RTG pigM56R2 is used with the TaqMan<sub>mgb</sub> sensor OptiR
9. Method according to the previous claims characterised by the fact that it is carried out in heat-treated meat and meat products
10. Utilisation of the method according to claim 1 for the species-specific and quantitative detection of CNS tissue in meat and meat products
11. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products, containing, at least, material for the species-specific and quantitative analysis of the GFAP cDNA.
12. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products, containing material for RNA extraction as well as suitable reaction buffers and/or material for the reverse transcription of the extracted GFAP mRNA.
13. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products according to claim 12, characterised by the fact that the material for the RNA extraction are RNase-free water, Reverse Transcriptase (RT) buffers, MgCl<sub>2</sub>, 2'-Deoxyribonucleoside-5'-triphosphate (dNTP), random hexamers, RNase inhibitor and reverse transcriptase.
14. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products according to claims 11 to 13, characterised by the fact that a transcription control is contained in the form of a GFAP mRNA for the supervision of a successful transcription process of the isolated GFAP mRNA into cDNA.

15. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products according to claims 11 to 14, characterised by the fact that the material for the reverse transcription of the extracted GFAP mRNA for the detection of bovine, ovine and caprine animals are Universal PCR Master,  $\text{MgCl}_2$ , Primer RTGcowM56F2a 5'-ACC TGC GAC CTG GAG TCC T-3', Primer RTGcowM56R2a 5'-CTC GCG CAT CTG CCG-3' and TaqMan<sub>mgb</sub> sensor OptiR 6-FAM-ACT CGT TCG TGC CGC GC-MGB.
16. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products according to claims 11 to 15, characterised by the fact that the material for reverse transcription of the extracted GFAP mRNA for the detection of porcine animals are Universal PCR Master,  $\text{MgCl}_2$ , Primer RTGpigM56F2 5'-GAC CTG CGA CGT GGA GTC CC-3', Primer RTGpigM56R2 5'-TGG CGC TCC TCC TGC TCC -3' and TaqMan<sub>mgb</sub> sensor OptiR 6-FAM-ACT CGT TCG TGC CGC GC-MGB.
17. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products according to claims 11 to 16, characterised by the fact that it contains a positive control in the form of the GFAP cDNA of bovine and/or porcine animals and a negative control in the form of the GFAP cDNA of bovine and/or porcine animals, an internal amplification control as well as reference samples for the quantification of the examined test samples.
18. Test kit for the species-specific and quantitative detection of CNS tissue in meat and meat products according to claims 11-17, characterised by the fact that the reference samples are dilution series, samples with defined CNS content and/or a reference gene.